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OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

CHAU, COREY P

ART UNIT PAPER NUMBER

2644

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/915,348	Applicant(s) KODAMA, TOMOYA	
	Examiner Corey P Chau	Art Unit 2644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, and 6-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, and 6-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9/15/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 1, 2, 3, 6, 7, 8, and 15 are objected to because of the following informalities: in Claim 1, line 7, recites "external memory device", which should be replaced with "external memory". Appropriate corrections are required here and throughout the document.

Claim Rejections - 35 USC § 112

2. Claims 8, 13 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claim 8 recites the limitation "the plurality" in line 3. There is insufficient antecedent basis for this limitation in the claim.

4. Regarding Claim 13, it is unclear to the Examiner which data is "data" on line 2 is referring to and what determines if the data will be unused for a long time and what allows data to be saved from the internal memory to the external memory when data is determined to be unused for a long time.

5. Regarding Claim 14, it is unclear to the Examiner as to what "releases the storage region of the data or the program which becomes unnecessary".

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. Claims 1 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5908997 to Arnold et al (hereafter as Arnold).

8. Regarding Claim 1. Arnold discloses an audio processor which processes an input data stream via an external memory (36), comprising: a control processor (42) to fetch in, when executing one of divided procedures of an audio process, a program and audio data corresponding to a next one of the procedures from the external memory which stores programs and a group of data used for sequentially executing the divided procedures of the audio process (Figs. 2 and 3); an internal memory (46) to store the program and audio data fetched from the external memory by the control processor and corresponding to the one and the next one of the procedures (Figs. 2 and 3); a

coprocessor (94) to subserve the control processor to subject audio data of the input data stream to the divided procedures of the audio process based on the program fetched by the control processor (Figs. 2, 3, and 5; column 10, lines 24-67; column 11, line 66 to column 12 line 57) .

9. Regarding Claim 20, Arnold discloses said coprocessor (94) is configured to process only audio data (Figs. 2, 3, and 5)

10. Claims 1-3, and 6-19 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6275239 to Ezer et al. (hereafter as Ezer).

11. Regarding Claims 1, 13, and 14, a best understood with regarding the 112, 2nd problem as mention above, Ezer discloses an audio processor which processes an input data stream via an external memory (103)(Fig. 1), comprising: a control processor (101) to fetch in, when executing one of divided procedures of an audio process, a program and audio data corresponding to a next one of the procedures from the external memory (103) which stores programs and a group of data used for sequentially executing the divided procedures of the audio process (Figs. 5 and 6); an internal memory (405,407,416,425)(Fig. 4; claim 6) to store the program and audio data fetched from the external memory by the control processor and corresponding to the one and the next one of the procedures; a coprocessor (102) to subserve the control processor to subject audio data of the input data stream to the divided procedures of the audio process based on the program fetched by the control processor (Figs. 1 and 2; column 1, line 60 to column 2, line 31).

12. Regarding Claim 2, Ezer discloses the coprocessor is configured to subserve the control processor to subject sequentially the audio data to decoding, noise-less decoding, noise reduction, filter bank, and block switching in accordance with the programs and data fetched from the external memory in units of one procedure (Figs. 8 and 9; column 10, line 41 to column 11, line 42).

13. Regarding Claim 3, Ezer discloses the coprocessor (102) is configured to subserve the control processor to execute the program fetched in the internal memory from the external memory in accordance with progress of the procedures of the audio process (Fig. 4).

14. Regarding Claim 6, Ezer discloses the internal memory comprises an instruction memory (405) configured to store an instruction group of the program transferred from the external memory device and a data memory (407) configured to store a data group transferred from the external memory, and the coprocessor subserves the control processor to perform the process based on the instruction group using the data in the data memory and data corresponding to a progress stage of audio data reconstruction to generate audio data (Fig. 4).

15. Regarding Claim 7, Ezer discloses a DMA controller (104,411) configured to control writing of data to the external memory device, the instruction memory and the data memory, and reading of the data therefrom by a direct access memory transfer (Figs. 1 and 4).

16. Regarding Claim 8, Ezer discloses the control processor sequentially transfers a plurality of program modules corresponding to the plurality of procedures of the audio

process to the coprocessor from the external memory according to the progress of the procedures (Figs. 1 and 2; column 1, line 60 to column 2, line 31).

17. Regarding Claim 9, Ezer discloses the coprocessor (102) subserves the control processor to execute decoding of bit stream data, noiseless decoding, inverse quantization, scale factor, TNS processing, filter bank processing, and the block switching, in this order, to reconstruct audio data (Figs. 8 and 9; column 10, line 41 to column 11, line 42).

18. Regarding Claim 10, Ezer discloses the control processor includes a function of predicting which procedure is performed after the procedure which is currently performed (Figs. 4 and 6).

19. Regarding Claim 11, Ezer discloses the internal memory stores a program module which request the DMA controller for preparing, while continuing the procedure which is currently performed, the data group and instruction group that are required for the next procedure (Figs. 4 and 6).

20. Regarding Claim 12, Ezer discloses wherein a DMA transfer instruction is added to the program module in order to read the program module used in the next procedure from the external memory, the DMA transfer instruction allowing to read the program module with the DMA transfer by specifying the storage area (Figs. 4 and 6).

21. Regarding Claim 15, Ezer discloses a data processing apparatus for processing an input data stream via an external memory (103) comprising: a control processor (101) to fetch in a program and data to be used for a next procedure of an audio process from programs for encoding and decoding, input/output data, work data, table

data which are stored in the external memory (Figs. 5 and 6); a coprocessor (102) to subserve the control processor to perform data processing for coding or decoding according to the program fetched by the control processor (Figs. 1 and 2; column 1, line 60 to column 2, line 31); a data memory (407) to store the data fetched by the control processor; an instruction memory (405) to store the control programs to be applied to the processor; and a DMA controller (104,411) to transfer the data among the instruction memory and the data memory and the external memory (Fig. 4), the control processor controlling the DMA controller to perform the encoding and the decoding using the coprocessor, read program and data required for the next procedure from the external memory, and write data obtained by the procedure into the external memory (Figs. 4 and 6).

22. Regarding Claim 16, Ezer discloses the coprocessor temporally stops when accessing of the DMA controller to the instruction memory or the data memory competes with accessing of the coprocessor to the instruction memory or the data memory (Fig. 4).

23. Claim 17 is essentially similar to Claim 1 and is rejected for the same reasons stated above apropos to Claim 1.

24. Claim 18 is essentially similar to Claim 2 and is rejected for the same reasons stated above apropos to Claim 2.

25. Regarding Claim 19, Ezer discloses an audio data processing method for sequentially subjecting input data to a plurality of procedures of an audio process, comprising: storing a plurality of program modules corresponding to the plurality of

procedures and data to be processed in an external memory (103); reading, when executing one process, a program module and to be processed data which are used for a next procedure of the audio process from the external memory a control processor (101); and processing audio data of the readout data via a coprocessor (102) in accordance with the readout program module (Fig. 2).

Response to Arguments

26. Applicant's arguments with respect to claims 1-19 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

27. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

28. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Corey P Chau whose telephone number is (703)305-0683. The examiner can normally be reached on Monday - Friday 9:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tran Sinh can be reached on (703)305-4040. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

March 7, 2005


XU MEI
PRIMARY EXAMINER